

Notes on Western Conifer Aphids (Homoptera: Aphididae).¹

By G. F. KNOWLTON and CLYDE F. SMITH.

The following report adds to the known distribution of several conifer aphids, two species and a sub-species being described as new².

CINARA BREVISPINOSA (G. and P.). On *Pinus contorta* twig bark at Boise, Idaho, July 16, 1936 (T. O. Thatcher).

C. CURVIPES (Patch). On Engelman spruce at Pingree Park, Colorado, August 21, 1935 (G. F. Knowlton).

C. FERRISI (Swain). On *Pinus albicaulis*, Moose Green, near Karsts' Ranch, Montana, July 8, 1936 (Thatcher).

C. GLEHNA (Essig). On *Picea pungens* twig bark at Salt Lake City, Utah, June 12, 1935 (Knowlton).

C. HOTTESI (G. and P.). On twig bark of *Picea engelmannii* at Pingree Park, Colorado, August 21, 1935 (Knowlton: M. A. Palmer).

C. MEDISPINOSA (G. and P.). On young twig bark of *Pinus contorta* at Boise, Idaho, July 6, 1936 (Thatcher), and Beaver Creek, Logan Canyon, Utah, July 25, 1837 (C. F. Smith: C. K. Smith).

C. MURRAYANAE (G. and P.). On twig bark of *Pinus contorta* at Boise, Idaho, July 6, 1936; and Mountain View Peak, Rogerson, Idaho, May 12, 1936 (Thatcher).

C. OCCIDENTALIS (Davidson). On twig bark of *Abies lasiocarpa*, Minidoka National Forest, Idaho, May 31, 1935 (Thatcher).

C. PINI (L.). On *Pinus sylvestris*, Campus, Utah State Agricultural College, Logan, Utah, July 26, 1937 (Smith: C. J. Davis).

C. PONDEROSAE (Williams). On *Pinus ponderosa* twig bark west of Meaw Meadows, Idaho, June 13, 1936 (Thatcher); Yellowstone National Park, Wyoming, July 18, 1936 (Knowlton); Gallatin Valley, Montana, July 14, 1936 (Knowl-

¹ Contribution from the Department of Entomology, Utah Agricultural Experiment Station. Authorized by the Director.

² The writers are indebted to Professor M. A. Palmer for her opinion concerning various species herein recorded.

ton); and Nederland, Colorado, August 23, 1935 (Knowlton).

C. SIBIRICAE (G. and P.). On *Juniperus sibirica* at Pingree Park, Colorado, August 21, 1935 (Knowlton).

***Cinara thatcheri* n. sp.³**

Alate vivipara.—Size 4mm. long and 1.75 wide through eyes; ocular tubercles present; antennae 1.61 long; antennal III, 0.57 to 0.6 mm. long with 3 to 6 sensoria; IV, 0.25 to 0.28, with 1 to 3 sensoria; V, 0.3 to 0.33, with 1 secondary sensorium; VI, 0.153 to 0.16 + 0.047 to 0.05; last three segments of acute rostrum measuring 0.21 to 0.22, 0.28 to 0.3, and terminal segment 0.11; hind tibiae 2.83 to 2; hind tarsi 0.395; cornicles 0.3 to 0.46 across longest part of base; dusky patches occur on the two dorsal segments preceding the cauda; small, dusky spots partly surround spiracles and occur on other dorsal segments.

Apterous vivipara.—Size 4.5 mm. long 2.4 wide through abdomen and 0.78 through eyes; antennae 1.6 to 1.65 mm. long; antennal III, 0.53 to 0.634, without sensoria; IV, 0.25, with 1 sensorium; V, 0.285 to 0.32 with 1 secondary sensorium; VI, 0.146 to 0.155 + 0.047 to 0.05; penultimate segment of rostrum 0.29 to 0.3 mm. long; rostrum reaching nearly to end of abdomen; hind tibiae 2.6 to 2.83 hind tarsi 0.36 to 0.39; cornicle 0.4 mm. across base longest way.

Collections.—On *Pinus ponderosa* at White Bird Summit, IDAHO, June 13, 1936 (T. O. Thatcher).

Taxonomy.—Professor M. A. Palmer called the writers' attention to the fact that the sub-terminal segment of the rostrum in *Cinara thatcheri* is noticeably longer than is the case in its near relative, *Cinara schwarzi* (Wilson), in which it is 0.2 to 0.23 mm. long; also antennal V always is longer than IV.

C. TAXIFOLIAE (Swain). On twig bark of *Pseudotsuga taxifolia* at Antelope Flat, near Ashton, Idaho, July 18 and 27, 1936 (Thatcher).

***Cinara utahensis* n. sp.**

Apterous vivipara.—Color brownish-black, shiny; body 4.5 to 4.72 mm. long and bearing hairs 0.06 to 0.07 mm. long on abdomen; vertex hairs 0.10 to 0.12; hairs on antennal III, 0.04 to 0.06; antennae 2.2 to 2.3 mm. long; antennal III, 0.78 to 1.04 mm. long and bearing 1 to 3 sensoria; IV, 0.28 to 0.35 bearing 1 to 2 sensoria; V, 0.37 to 0.45 with 1 sensorium;

³ Types of new species are deposited in the U. S. National Museum. Paratypes in the G. F. Knowlton and C. F. Smith collections.

VI, 0.125 to 0.14 + 0.065 to 0.10 mm.; rostrum attaining cornicles; rostral IV + V, 0.33 to 0.37; hind tibiae 3.76 to 4.6 mm. long and bearing pointed hairs 0.096 to 0.117 mm. long; first joint of hind tarsi 0.06 to 0.08 mm. on the outer side, 0.16 on inner side; second joint 0.34 to 0.37; cornicles 0.53 to 0.61 mm. across base.

Alate vivipara.—Antennal III, bearing 9 to 12 sensoria; antennal IV, 2 to 3 sensoria; hairs on vertex 0.08 to 0.09;

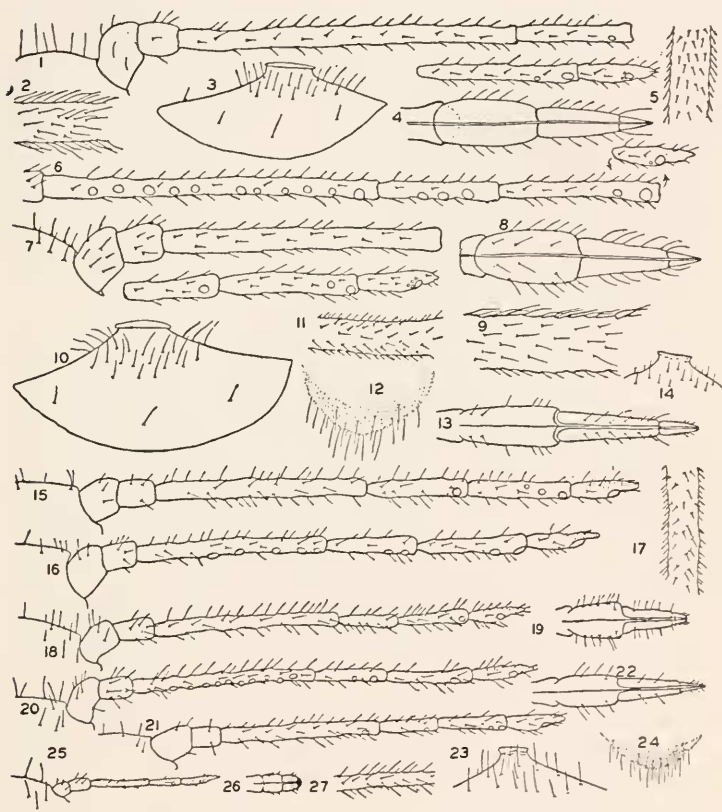


Fig. 1. *Cinara utahensis* n. sp. Apter, 1-4; alate 5-6. *C. utahensis* *zoolathridi* n. subsp. Apter, 7-10. *C. thatcheri* n. sp. Apter, 11-15; alate, 16-17. *C. taxifoliae* (Swain). Apter 18-19; alate, 20. *C. brevispinosa* (G. and P.). Apter, 21-24. *Essigella fusca* G. and P. Apter, 25-27.

hairs on hind tibiae 0.045 to 0.047; other characters as in apterous vivipara.

Taxonomy.—This species differs from *C. coloradensis* (G. and P.) in diameter of cornicles being greater; tibial hairs longer and less rigid, these being longer than one-half the diameter of the hind tibiae; and in having a secondary sensorium on antennal V. *C. utahensis* differs from *C. curvipes* (Patch) in having fewer sensoria on apterous antennal III, and averaging more secondary sensoria on antennals IV and V; in tibial hairs being longer (more than half the diameter of the joint) and pointed; hind tarsi being more than 0.1 of hind tibiae. This species runs to *C. edulis* (Wilson) in Gillette and Palmer's key (Ann. Ent. Soc. Amer. 24: 844) from which it differs in angle of hairs on hind tibiae being less than 45 degrees; and in being a larger species.

Collections.—On *Abies lasiocarpa* in Smithfield Canyon, UTAH, July 18, 1937 (W. P. Nye: C. J. Davis).

Cinara utahensis zoolathridi n. subsp.

Apterous vivipara.—Body reddish-brown, 3.7 to 5.4 mm. long; antennae 2 to 2.5 mm. long; antennal III, 0.8 to 0.92 mm. long and bearing 0 to 2 sensoria on distal half; IV, 0.29 to 0.35 mm. with 1 to 2 sensoria near distal end; V, 0.41 mm., bearing 1 to 2 secondary sensorium near distal end; VI, 0.15 to 0.16 + 0.063 to 0.082; rostrum lance-like, usually surpassing cornicles; rostral IV + V, 0.34 to 0.38 mm.; hind tibiae curved, 4 to 5 mm. long, bearing numerous thin hairs 0.062 to 0.086 mm. long; first joint of hind tarsi 0.09 on the inner side and 0.19 on the outer side; second joint 0.39; cornicles 0.35 to 0.42 mm. in diameter across base.

Collections.—On spruce trees in nursery, Portland, OREGON, 1934 (C. Chamberlin).

Taxonomy.—This sub-species differs from *C. utahensis* n. sp. in having slightly shorter hairs on vertex; hairs on antennae being less spine-like; and in having thicker antennae and hind tarsi. From *C. curvipes* (Patch) it differs in base of VI being shorter; wider base of cornicles; and hairs on hind tibiae being longer, thinner and less blunt.

SCHIZOLACHNUS PINI-RADIATAE (Davidson). On needles of *Pinus ponderosa* in Dixie National Forest, Utah, August

10, 1936 (Knowlton: C. F. Smith).

ESSIGELLA FUSCA G. and P. On *Pinus* needles at Heron Creek, Wyoming, July 18, 1936 (Knowlton); and Pingree Park, Colorado, August 19, 1936 (Knowlton).

**Description of and Notes on the Early Stages of
Hyloicus canadensis Bdv. (Lepidoptera: Sphingidae).**

By WALTER J. CLAYTON, Lincoln, Maine.

The following descriptions were made of larvae from eggs laid by three female moths taken at Lincoln, Maine, by myself. The first was taken at 1 A. M. on June 30, 1937, at a street light. She laid a few eggs that night and a total of 110. The larvae emerged on July 5th. The second moth laid only 19 eggs and the third 118. This last female seemed less vigorous than the others and many of the larvae from her batch of eggs did not survive moulting.

The newly-hatched caterpillars ate most of their eggshells after emerging. Those of the first brood grew to maturity and stopped eating 21 days after hatching, and on July 26th began to roam around, considerable moisture exuding from the first three or four segments. The larvae from the eggs of the second and third females went through their development in exactly the same length of time.

The larvae from the first mentioned brood had a large number of the red-colored examples in it, and the second and third lots were inclined to be rather dark, merging into reddish brown markings, but, like the others, lost most of the dark color in the last stage.

The caterpillars were quite frail and had difficulty in passing the first moult in which many died, but those which survived had little trouble in passing the other moults. It was necessary, however, to rear the larvae singly.

The larvae from the first brood were, on the whole, a brighter sort of reddish-rust color and were much brighter than the caterpillars of the other two broods. In the end, though, the caterpillars of all three broods were much alike in color with white back, green sides and reddish shades showing faintly in some.